



INTEROFFICE CORRESPONDENCE

Date: 10\10\91 OU1-91-1
To: J.P. Koffer, Remediation Programs, T130B
From: R.S. Roberts, Remediation Programs, 273-6007
Subject: RISK FROM TOLUENE IN SOIL AT THE FRENCH DRAIN

A risk analysis was performed to evaluate the risk associated with the toluene in the soils excavated for the French Drain Geotechnical Investigation. This analysis will tell us if the toluene in the soils poses a risk to human health given a direct exposure scenario.

The following results were obtained using the methods described in Risk Assessment Guidance For Superfund (US EPA, 1989) and OSWER Directive 9285.6-03, "Human Health Evaluation Manual, Supplemental Guidance: 'Standard Default Exposure Factors'." The direct exposure scenario is defined by these documents as:

- A person directly ingesting surficial soil at a residence for 30 years (6 years as a child and 24 years as an adult)
- Ingestion occurs 350 days/year

Toluene is considered to be a non-carcinogen and is not listed as a carcinogen. Therefore a hazard quotient is computed for toluene. If the hazard quotient is less than one, the risk is considered acceptable.

Using the maximum toluene concentration found, 1200 ppm, the hazard quotient was computed to be $1.2E-02$. It is customary to use the average concentration of an analyte in this type of risk calculation since ingestion occurs over a very long period of time, but the maximum concentration is used here to illustrate a worst case. An average concentration of over 100,000 ppm would be required in soil for the hazard quotient to equal one.

Boreholes for which complete data was available are outlined in Attachment I. No data was available for boreholes B303990, B304090, B304190 and B304290. Some data had not yet been received for boreholes B303690 and B303790.

ADMINISTRATIVE

REVIEWED FOR CLASSIFICATION/USE
BY R.S. Roberts
Date 10/4/91
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If you have any questions, please contact me.

cc:

G. M. Anderson

D. M. Smith